CLAIMS

1. A negative electrode for a lithium ion secondary battery comprising a material mixture layer, said material mixture layer comprising a carbonaceous material, said carbonaceous material comprising a spherical natural graphite (A) and a graphitized carbon fiber (B), wherein

said material mixture layer has a carbon density of not less than 1.6 g/cm^3, which is determined by dividing the weight of said carbonaceous material by the volume of said material mixture layer;

said spherical natural graphite (A) has:

(1) an interplanar spacing d_{002} between the (002) planes determined by an X-ray diffraction pattern of not less than 0.3354 nm and not more than 0.3357 nm,

(2) a mean particle circularity of not less than 0.86, and

(3) a mean particle size of not less than 5 μm and not more than 20 μm;

said graphitized carbon fiber (B) has:

(1) a mean fiber length of not less than 20 μm and not more than 200 μm, and

(2) a mean aspect ratio of not less than 2 and not more than 10; and

the amount of said graphitized carbon fiber (B) is not less than 50% by weight and not more than 90% by weight of whole of said carbonaceous material.

2. A lithium ion secondary battery comprising:

(a) a positive electrode comprising a lithium-containing composite oxide represented by the chemical formula

$Li_a(Co_{1-x-y}Mg_xM_y)_bO_c$,

where M is at least one selected from the group consisting of Al, Mn, Zr, In and Sn, $0 \leqq a \leqq 1.05$, $0.01 \leqq x \leqq 0.2$, $0 \leqq y \leqq 0.02$, $0.85 \leqq b \leqq 1.1$, $1.8 \leqq c \leqq 2.1$;

(b) the negative electrode in accordance with claim 1; and

(c) a non-aqueous electrolyte.